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ABSTRACT

New technology can help schools and communities create high-performance learning environments where all students reach high standards. To be effective, technology must be used as an integral part of the school's learning environment, rather than as an isolated laboratory practice or for mindless drill. Six examples are given of the effective use of technology in education. Basic guidelines for technology use begin with checking state resources and community support. The Internet and state networks are cited as valuable sources, and five national networking resources, nine technology organizations, departments of five federal agencies, and eight publications are listed as further sources to be consulted in implementing educational technology. (SLD)

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ED 366 322

TECHNOLOGY: TOOLS FOR TRANSFORMING TEACHING AND LEARNING

A BACKGROUND PAPER FOR THE GOALS 2000: SATELLITE TOWN MEETING OCTOBER 19, 1993

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People in schools and communities engaged in the hard work of reform know just how tough that job is. "We've accepted the National Education Goals," many of them say. "We know we want all our children to meet high standards. But how do we get them there?"

Many schools and communities are finding that technology can help answer that question. From telephone answering devices and fax machines to the most advanced computers and laser disc players, these tools can help schools and communities create high-performance learning environments where *all* their children reach high standards.

The possibilities seem endless. Consider just a few examples:

- Voicemail systems that allow a parent to check on a child's daily homework assignments and school schedule.
- Satellite links that give students a chance to take courses by television, allowing them to learn subjects such as Russian language or advanced calculus, even if there is no such teacher at their own schools.
- Electronic bulletin boards that allow teachers to share lessons, instructional tips, and other information with other teachers in the community or around the country.
- Online computer networks that allow kids in different parts of the country to work collaboratively on challenging, real-world problems in subjects such as ecology.
- Software and equipment that allows students to research and then create multi-media presentations using sound, text, and full-motion video.
- Low-cost modifications to classroom computers that allow children with disabilities to communicate and participate fully with other students.

But if technology is to help transform teaching and learning, it most be used as an *integral* part of the school's learning environment. Experts warn against corralling all the computers in a "technology lab" or using technology for mindless drill and practice.

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"It takes more than a box," writes Piscataway, N.J. school superintendent Philip E. Geiger. "Computers, satellite uplinks and downlinks, interactive software, scanners and fiber optics mean nothing if teaching doesn't change to reflect the way kids learn."

Communities and schools that have met the most success in their use of technology have done so when they made sure that it was used *to improve the way the entire school works* -- from the way that parents and teachers interact, to the way that student attendance and performance information is collected and used, to the way children work and learn together.

Examples of Schools Using Technology

Perhaps the best way to talk about the vast array of possibilities that technologies offers for improving teaching and learning is to look at what specific schools and communities are doing. Here are just a few examples of how teachers and educators have put technology to work.

- Roger Coffee, the principal at Webster Elementary School, in St. Augustine, Florida, is using technology to improve communication and simplify his job. An in-house TV production room enables students to "produce" the morning news and announcements for him. A school-wide electronic mail system allows him to keep in touch with the school's teachers, responding to their requests and questions in minutes, rather than days. Coffee also uses a computer program to produce a weekly parents' newsletter that looks professional. And a voicemail system enables parents and teachers to leave messages for each other. The system also provides parents with easy access to frequently-asked questions, like that evening's homework assignments.

- At Virginia Tech, Virgil Cook, a professor of English, teaches a technical writing course entirely on-line. The class meets face-to-face once, but after that, everything occurs over an electronic network. Cook sends his lecture electronically to students once a week, and asks students to respond to a set of questions, and share their answers with the other students. Often, debate ensues over these questions, and students become engaged in electronic "arguments," often contributing far more often than once a week as required. Cook grades the papers and returns them electronically as well.

- TEAMS is a set of math and science courses for grades 2-6 offered via satellite by the Los Angeles County Office of Education. Students attend an interactive telecast lesson once a week hosted by a master teacher. Through the lesson, students learn about conducting science experiments and about scientific methods. Each lesson requires them to gather and organize data from a variety of sources, conduct experiments in their own classroom, or perform mathematics exercises. But students aren't the only ones benefiting from TEAMS. Teachers learn new techniques in science and receive support materials to help them construct their own lesson plans.

Originally funded by a grant from the U.S. Department of Education's Star Schools program, TEAMS now reaches 50,000 students nationwide.

- Students at the Dalton School in New York City learn about archaeology by engaging in a simulated "dig" of an actual site in ancient Greece. Students work together to uncover objects and use computer based tools to measure and classify the objects they uncover. They use databases and other reference materials to analyze the artifacts, and then pool their research to come up with an overall interpretation of the site. This joint work is made easier by a shared database that all the students can access. In the course of learning facts about history, the students acquire historical interpretation skills as well.

- Each week some 2,000 students and teachers in the Chicago area "Ask a Scientist" questions about biology, chemistry, physics, engineering, math, computer science, and the environment to practicing scientists. The Argonne National Laboratory offers this free online bulletin board where question are submitted to scientists. Students can get help with homework and research. Teachers exchange instructional materials and share ideas for field trips, workshops, and other school activities.

Where to Begin? A Few Basic Guidelines

* Check to see if your state has a statewide plan for technology. Your state department of education could be a valuable source of advice and support as you begin to think about how technology can improve your schools.

* Look around your community for organizations that can provide advice, encouragement, and financial support. The local telephone company, the television cable provider, and other business can be key partners. Local libraries, museums, universities, and Federal entities, including the regional and National Laboratories, can also help.

* Finally, consult some of the resources listed below. The following list of resources is just a small sample of networks, organizations, programs, and publications that can help with important decisions regarding equipment, training, funding and more. As you navigate your way through the field of education technology, you will find there are countless other sources of help not mentioned in this paper.

Networking and the Internet as a Resource

Telecommunications technologies can change teaching and learning dramatically. New technologies are increasingly offering ways to bring resources to the classroom and

community. Teachers and students with access to a computer, a modem, and phone lines are freed from the constraints of space (the physical limits of the school building) and time (the typical 8 a.m. to 3 p.m. school day). Through computer networks, teachers can communicate with peers and gain access to a vast array of electronic resources.

The Internet is a global "network of networks" originally developed to connect researchers at universities and government laboratories. Today it is much more. While there are still some obstacles to the Internet, new tools and access points are being developed every day. Not only are 10 million users able to "talk" to colleagues worldwide, but the Internet provides users with access to a vast amount of information, including a growing collection of education resources. The Internet uses the high-speed capability of the National Science Foundation's NSFnet, which serves as a backbone to the Internet, to link the various national, regional, and local networks. Many of the network educational services use the Internet. Others are finding ways to provide gateways into and out of the Internet.

Increasingly, access to the Internet is a key part of plugging into the world of networking. Millions of people currently use the Internet, and the number of nonprofit institutions and commercial services offering Internet connections is growing every day. This means that educators seeking to get involved with networking should aim, whenever possible, for access to the Internet. For teachers, students, or parents already connected to commercial network services like CompuServe, America Online, or Prodigy, these services have gateways to the Internet as well.

State Networks

There are a growing number of state, regional, and local networks affording opportunities for K-12 educators and students to connect to the Internet. Some states, including Texas, North Dakota, Virginia, Florida, and California, provide low-cost or free connections for individuals and schools within the state. More and more states are providing network access for K-12 users. In addition, some of the National Science Foundation's mid-level and regional networks are providing fee-based access to the Internet.

In 28 states, teachers are using statewide electronic networks to share ideas and lesson plans, discuss issues of mutual interest, and obtain information for planning, curriculum development, and instruction. Interested persons should contact their state education agencies to find out services and costs in their area. For more information about networks in your state or local area, you should also contact **FARNET**, a non-profit corporation that does research on the use of the Internet for educational purposes. Its members include local, state, regional, national, and international providers of electronic network services. FARNET can refer callers to state and local networks around the country. Copies of research reports are also available. FARNET, 100 Fifth Avenue, Waltham, MA 02154; (617) 890-5120. A sampling of statewide networks are listed below:

- o California Online Resources for Education (CORE) provides K-12 teachers with electronic access to e-mail, the Internet, and education-related curriculum materials. Currently, 6,000 teachers use CORE, dialing into 20 California State University campuses;

- o SENDIT is a pilot K-12 computer network for North Dakota educators and students developed by the North Dakota State University (NDSU) School of Education and Computer Center. More than 70 forums have been established for topical discussions;

- o More than 3,000 teachers and administrators in Florida have set up free accounts for e-mail on Florida Information Resource Network (FIRN). FIRN users also can access the ERIC database and library card catalogs of several colleges and universities in Florida through the network;

- o Texas Education Network (TENET) currently links more than 12,000 K-12 educators and administrators who use the network for e-mail, resource sharing, and access to databases via the Internet.

National Networking Resources

Consortium for School Networking (CoSN)
CoSN is a community of organizations, government agencies, corporations, and individuals with an interest in K-12 education. Through computer networking, CoSN helps educators and students access information and communications resources that will increase their productivity, professional competence, and opportunities for learning and collaborative work. CoSN, P.O. Box 65193, Washington, DC 20035-5193; (202) 466-6296. Internet: COSN@BITNIC.BITNET.

Internic Information Services (IIS)
The mission of IIS is to collect, maintain, and distribute information about the Internet and provide assistance to networking end users. Directory and Database Services maintains the Internet Resource Guide, which is available through anonymous file transfer protocol at INFO@INTERNIC.NET., directory resource-guide. This and other resources can also be obtained by sending e-mail to INFO@INTERNIC.NET, and typing in the body of the message: Request: info, Topic: help. IIS also offers network assistance through a telephone hotline. Internic Information Service, 10 Moulton Street, Cambridge, MA 02138; Hotline: 1-800-444-4345. Internet help: INFO@INTERNIC.NET.

Learning Link National Consortium
Learning Link is a computer-based, interactive communication system for K-12 educators, students, adult learners, and public television viewers. It features databases and information resources, message centers, and mail and gateways to remote sites. Its services are locally

managed and operated by public broadcasting stations, education agencies, or community organizations in 13 states. A national version is available to those who do not have access to the local version. The national consortium provides technical support. Contact: WNET/13, 356 West 58th Street, New York, NY 10019; (212) 560-6613.

National Geographic Kids Network
Kids Network is an international telecommunications-based science and geography curriculum for fourth- through sixth-graders created by the National Geographic Society and Technical Education Research Centers, Inc. Students at schools in 50 states and more than 20 countries are assigned to research teams composed of 10 to 15 different classes. They investigate topics such as the water supply, weather, pollution, nutrition, and solar energy on the local level, then compare data with other members of their research team. Scientists help them trace geographic patterns in the data through letters, maps, and graphs. A Spanish-language version of the curriculum is being piloted. For prices and session dates, contact National Geographic Society, Educational Services, Washington, DC 20036; 1-800-368-2728.

SpecialNet
In operation since 1981, this information network offers educators and administrators e-mail, bulletin boards, conferencing, and databases that address various topics in special education. Sponsored by the National Association of State Directors of Special Education, it includes a variety of bulletin boards maintained by editors with expertise in the fields covered, including learning disabilities, parent involvement programs, and special education litigation. For subscription information, contact GTE Education Services, GTE Place, West Airfield Drive, PO Box 619810, Dallas/Fort Worth Airport, TX 75261-9810; 1-800-927-3000.

Technology Organizations

Center for Children and Technology
The Center investigates the roles of technology in children's lives "both in the classroom and in general" and the design and development of prototypical software that supports engaged, active learning. It also serves as the New York Office for the Education Development Center. The Center for Children and Technology offers a free quarterly newsletter and low-cost publications. Center for Children and Technology, 610 West 112th Street, New York, NY 10025; (212) 875-4560. Program contact: Margaret Honey. AppleLink: CTE.BCS. Internet: MHONEY@EDU.ORG.

Community Learning and Information Network (CLIN)
The Community Learning and Information Network (CLIN) is a nationwide network of communities that are developing multi-use technology centers in K-12 schools across the country. The technology centers serve children during the day and provide a facility for workforce training and other uses during the evening. CLIN provides a blueprint for building community support, finding the resources to set up the technology centers, and for successfully operating them. Community Learning and Information Network (CLIN), 1776 K Street, N.W., 4th Floor, Washington, DC 20006; (202) Contact: Sam Wyman, President.

Council of Chief State School Officers
The Council of Chief State School Officers (CCSSO) can refer individuals to the state technology coordinator in each state education agency. Council of Chief State School Officers, 1 Massachusetts Avenue, N.W. Suite 700, Washington, DC 20001; (202) 408-5505. Contact: Matthew Hoffman.

Electronic Frontier Foundation (EFF)
This membership organization focuses on policy issues related to national networking. In the K-12 context, EFF concerns itself with policies for determining the resources to which students will have access. EFF publishes a free newsletter, EFFector Online, on general Internet topics. For policy matters: 666 Pennsylvania Avenue SE, Washington, DC 20003; (202) 544-9237. For membership and publications: 155 Second Street, Cambridge, MA 02142; (617) 864-1550. Internet for either office: EFF@EFF.ORG.

International Society for Technology in Education (ISTE), Special Interest Group for Telecommunications (SIG/Tel)
The largest international nonprofit professional organization serving computer-using educators, ISTE is dedicated to the improvement of education through the use and integration of technology. ISTE-Net, an online computer network for ISTE members, is available through GTE Education Services (1-800-927-3000). The Special Interest Group for Telecommunications publishes a newsletter about telecommunications in education, T.I.E. News. 1787 Agate Street, Eugene, OR 97403-1923; (503) 346-4414. Internet: ISTE@UOREGON.EDU. Program contact for SIG/Tel: Lynne Schrum. Internet: SCHRUMLM@SPLAVA.CC.PLATTSBURGH.EDU.

Institute for the Transfer of Technology to Education (ITTE)
ITTE offers publications, conferences, and seminars for school board members, school board staff, and other educators on the effective use of technology in education. School districts are charged membership according to the size of the district. Institute for the Transfer of Technology to Education (ITTE), National School Boards Association, 1680 Duke Street, Alexandria, VA 22314; (703) 838-6722 Contact: Cheryl Williams, Director

New Frontiers Program
The National Catholic Education Association (NCEA) operates the New Frontiers Project in conjunction with the University of Dayton. Each year, the NCEA awards scholarships to educators in Catholic schools across the country, who are invited to a conference in Dayton that guides them through a practical process of planning the integration of technology into their school. New Frontiers Program, National Catholic Education Association, 1077 30th Street, N.W., Suite 100, Washington, DC 20007-3852; (202) 337-6232. Contact: Fred Brigham. Internet: brigham@tmn.com

School Renewal Network
Dedicated to school reform, this electronic network is intended to create a research base by a community of actively engaged practitioners and researchers. Participants include partners in

the center's programs, federally funded research and development laboratories and centers, several research universities, and schools from other national school reform efforts. NEA National Center for Innovation, 1201 16th Street NW, Washington, DC 20036; (202) 822-7783. Program contact: Shari Castle.

Technical Education Research Centers (TERC)
This program researches, develops, and disseminates innovative programs for educators. A special interest is curriculum projects involving telecomputing. Services include outreach, technical assistance, curriculum guides, and information dissemination. To obtain a copy of TERC's free newsletter, write to: Hands On, 2067 Massachusetts Avenue, Cambridge, MA 02140; (617) 547-0430. Program contact: Ken Mayer. Internet:KEN_MAYER@TERC.EDU.

Education Programming

Cable in the Classroom
Cable in the Classroom is an $81 million project of the cable industry to supply free cable hook-ups and commercial-free programming to schools. To date, they have hooked up 60,000 schools to cable and 24 programming services which provide commercial-free programming with study guides. This is all available free to schools with extended taping rights. A kit and Cable in the Classroom magazine are available by calling 1-800-743-5355 (see Publications).

Teacher TV
Teacher TV is a co-production of the National Education Association and The Learning Channel. Airing once a week, the show documents case studies of issues facing teachers in schools, sharing the best educational strategies available around the country. It is an accessible, inexpensive means of professional development for teachers. Teacher TV, National Education Association, 1201 16th Street, N.W., Washington, DC 20036; (202) 822-7715 Contact: Barbara Stein.

Federal Resources and Funding

The following list represents a number of key Federal programs that fund technology development. This list is by no means complete.

U.S. Department of Education

ERIC Clearinghouse on Information & Technology (ERIC/IT)
ERIC/IT is one of 16 clearinghouses in the ERIC System, sponsored by the Office of Educational Research and Improvement, U.S. Department of Education. ERIC/IT specializes in educational technology and library/information science and processes documents in these areas for the ERIC database. The clearinghouse also provides user services and publications

related to its scope areas, including the ERIC Networker, electronic "help sheets" for using ERIC resources on the Internet.

In addition, ACCESS ERIC, the ERIC System's outreach and promotion component, maintains a bulletin board on America Online. Available through the Teachers' Information Network of the Learning and Reference folder, it includes general information about ERIC, the full text of brochures for parents and teachers, information packages with research syntheses and ERIC database searches, product announcements, and a message center. Call 1-800-LET-ERIC for more information. 4-194 Center for Science and Technology, Syracuse University, Syracuse, NY 13244-4100; (315) 443-3640. Program contact: Nancy Preston.

AskERIC
ERIC/IT recently began piloting an Internet-based question-answering service called "AskERIC." Teachers, administrators, parents, and community members with education questions may send them via e-mail to ASKERIC@ERICIR.SYR.EDU. A response will be provided within 48 hours. AskERIC has also developed, based on what teachers are asking for, computerized resource collections of frequently-asked-questions, lesson plans (including those from PBS' Newton's Apple and CNN Newsroom), short summaries of recent research, and literature searches on popular topics.

Star Schools Program
The Star Schools Program is a discretionary grant program that supports telecommunications partnerships to provide telecommunications equipment and programming to schools. Through support from the Star Schools Program, more than 50,000 teachers along with a host of administrators, parents, and policymakers have participated in staff development and community awareness activities produced via satellite, compressed video technology, fiber optics, videodisc, and microcomputer-based networks. Each year the number of schools participating in live, interactive, instructional programs offered via distance education nearly doubles. The next round of competitions for Star Schools grants is in the spring of 1994. Approximately $22 million will be available for these grants. Star Schools, U.S. Department of Education, Office of Educational Research and Improvement, 555 New Jersey Avenue, N.W. Washington, D.C. 20208; (202) 219-2116 Contact: Cheryl Garnette.

Regional Educational Laboratories
The Department of Education's Regional Educational Laboratories work in partnership with educators and policymakers to test, adapt, and incorporate research findings into improved programs for schools and their students. The following is a listing of all of the laboratories and the states that they serve:

Appalachia Educational Laboratory
(800) 347-9120
Serves KY, TN, VA, WV

Far West Laboratory

(415) 565-3000
Serves AZ, CA, NV, UT

Mid-continent Regional Educational Laboratory
(303) 337-0990
Serves CO, KS, MO, NE, ND, SD, WY

The Regional Laboratory for Educational Improvement of the Northeast and Islands
(800) 347-4200
Serves CT, ME, MA, NH, NY, PR, RI, VT, U.S. Virgin Islands

North Central Regional Educational Laboratory
(708) 571-4700
Serves IL, IN, IA, MI, MN, OH, WI

Northwest Regional Educational Laboratory (See below)
(800) 547-6339
Serves AK, ID, MT, OR, WA

Pacific Regional Educational Laboratory
(808) 532-1900
Serves American Samoa, Commonwealth of the Northern Mariana Islands, Federated States of Micronesia, Guam, Hawaii, Marshall Islands, Palau

Research for Better Schools
(215) 574-9300
Serves DE, DC, MD, NJ, PA

SouthEastern Regional Vision for Education
(800) 755-3277
Serves AL, FL, GA, MS, NC, SC

Southwest Regional Development Laboratory
(512) 476-6861
Serves AR, LA, NM, OK, TX

Northwest Regional Educational Laboratory (NWREL)
NWREL seeks to improve schools and classroom instruction in the states of the Northwest. NWREL deserves special mention because of its particular interest in education technology and networking. The Laboratory offers publications and a free newsletter, the Northwest Report, to a national audience. 101 Southwest Main Street, Suite 500, Portland, OR 97204; (503) 275-9500. Program contact: Jerry Kirkpatrick.

Technology Resources Center

The Technology Resources Center is a demonstration site for the application of technology to all levels of education, located two blocks from Union Station. Interactive video discs, CD-ROM discs, IBM and Apple computers, and a variety of software are available for demonstration. Appointments are requested. Presentations can be tailored to individual or group needs. Technology Resources Center, U.S. Department of Education, 555 New Jersey Avenue, N.W., Washington, DC 20208; (202) 219-1699, Contact: Sheldon Fisher

National Science Foundation (NSF)

The Applications of Advanced Technology Program provides grants to examine the strengths and weaknesses of new, innovative applications of advanced technologies, and to lay the foundations and knowledge necessary for the use of new, revolutionary computer and telecommunications systems and related technologies for teaching and learning science and mathematics. Applications of Advanced Technology Program, National Science Foundation, 1800 G Street, N.W., Room 1249, Washington, DC 20550; (703) 306-1651, ext. 5887, Contact: Nora H. Sabelli, Program Director

The Department of Energy

The Department of Energy's National Laboratories provide educational experiences for students and training to teachers in communities near the 30 National Laboratories. The programs cover mathematics and all of the physical sciences. In fiscal year 1992, there were 515 programs operated by the National Laboratories, serving 400,000 students and 30,000 teachers. An annual guide to these programs is available at the following address: Office of University and Science Education, U.S. Department of Energy, 1000 Independence Avenue, N.W., Room 3F-042, Washington, DC 20585; (202) 586-8949, Contact: Dr. Richard Stephens, Director.

The Department of Commerce

The Public Telecommunications Facilities Program (PTFP) awards matching grants to non-commercial entities to purchase telecommunications equipment, with the stipulation that the equipment be used for educational or cultural purposes. PTFP also provides smaller grants to assist these entities in planning for the purchase and use of telecommunications equipment. In fiscal year 1994 (beginning October 1, 1993) approximately $20 million will be available for both types of grants. Public Telecommunications Facilities Program, National Telecommunications and Information Administration, U.S. Department of Commerce Washington, DC 20230; (202) 482-5802 Contact: Richard P. Harland, Senior Program Director.

National Aeronautics and Space Administration (NASA)

NASA provides training and educational experiences for students and teachers related to aeronautics and space technology. NASA also provides an on-line service called Spacelink,

which offers news about current NASA programs, lesson plans and activities for educators and students. NASA also transmits programming, including educational videos. National Aeronautics and Space Administration, Technology and Evaluations Branch, 300 E Street, S.W. Mail Code FET, Washington, DC 20546-0001; (202) 358-1540 Contact: Dr. Malcolm Phelps.

U.S. Department of Agriculture

The Agricultural Communications Program provides funding for the use of telecommunications in rural areas. Agricultural Communications Program, U.S. Department of Agriculture, 14th and Independence Avenue, S.W., Washington, DC 20250.

Publications, Videos

Many of the networking resources and information in this paper appeared in the Winter '92 issue of the journal, The ERIC Review, which you can obtain free by calling 1-800-LET-ERIC. The Eric Review, 1600 Research Boulevard, Rockville, MD 20850. Contact: Carol Boston.

The InterNIC Newsletter
The InterNIC Newsletter, published by InterNIC Information Services with funding from the National Science Foundation, provides information about networks on Internet -- along with general information about network technology. It can be ordered by contacting InterNIC Information Services, P.O. Box 85608, San Diego, CA 92186-9784; call or fax (619) 455-3990.

The USDLA Funding Source Book for Distance Learning and Educational Technology
The USDLA Funding Source Book is a publication listing hundreds of funding sources for technology. It is available for $39.50 plus $4.00 shipping. United States Distance Learning Association (USDLA), P.O. Box 5129, San Ramon, CA 94583; (800) 829-3400.

Using Technology to Support Education Reform. U.S. Department of Education, 1993. Available from the U.S. Government Printing Office, Superintendent of Documents, Mail Stop: SSOP, Washington, D.C. 20402-9328; 202-783-3238

Cable in the Classroom Magazine enables educators to make full use of cable television. It offers detailed listings of educational programming, sorted by subject area, plus information on support materials, videotapes available for purchase, and information on copyright clearance. Subscriptions are $18 per year. Many local cable stations make copies available free to educators. Cable in the Classroom Magazine, 86 Elm Street, Peterborough, NH 03458; (800) 343-0728.

TECHNOS Quarterly is a forum for the discussion of ideas about the use of technology in education. Featured interviews, articles, and opinion essays offer analyses of trends, research, and development in education, policy, and technology. Subscriptions are $20 for individuals, $16 for libraries (including media centers). TECHNOS Quarterly, Agency for Instructional Technology, Box A, Bloomington, IN 47402; (812) 339-2203. Contact: Carole Novak, Editor

Electronic Learning Magazine, 555 Broadway, New York, NY 10012; (212) 505-4926. A magazine focused on technology and school change. $23.95 / 8 issues per year.

The Office of Technology Assessment has produced a series of reports with valuable information: Linking for Learning, Power On!, Rural America at the Crossroads: Networking for the Future, and Adult Literacy and New Technologies: Tools for Learning. They are available at cost from the Government Printing Office (GPO), Superintendent of Documents, Mail Stop: SSOP, Washington, DC 20402-9328; 202-783-3238.

Global Quest: The Internet in the Classroom

A video designed to motivate schools to consider using the Internet, entitled "Global Quest: The Internet in the Classroom," is available from the NASA National Research and Education Network (NREN) K-12 Initiative. Contact: K-12 NREN Video, Teacher Resource Center, NASA Ames Research Center, Mail Stop T-025, Moffett Field, CA 94035. Internet: GET.VIDEO@QUEST.ARC.NASA.GOV. Fax: (415) 604-3445.

Experience the Power: Network Technology for Education

A single, free copy of the National Center for Education Statistics-produced videotape, "Experience," may be obtained by writing to: "Experience," NCES, Elementary/Secondary Education Statistics Division, 555 New Jersey Avenue, N.W., Washington, DC 20208-5651, or by faxing your request to (202) 219-1728.